

re-run



IFW16

RAW SEQUENCE LISTING

DATE: 08/02/2004

PATENT APPLICATION: US/09/893,033

TIME: 11:59:11

Input Set : N:\Cr4\Refhold\09_folder\I893033.raw

Output Set: N:\CRF4\08022004\I893033.raw

1 <110> APPLICANT: KAKEFUDA, GENICHI
 2 KOOP, HANS-ULRICH
 3 STURNER, STEPHEN
 4 ZHEN, RUI-GUANG
 5 <120> TITLE OF INVENTION: CYANOBACTERIAL NUCLEIC ACID FRAGMENTS ENCODING PROTEINS
 6 USEFUL FOR CONTROLLING PLANT TRAITS VIA NUCLEAR OR
 7 PLASTOME TRANSFORMATION
 8 <130> FILE REFERENCE: BASF 100,100 PRV
 9 <140> CURRENT APPLICATION NUMBER: US/09/893,033
 10 <141> CURRENT FILING DATE: 2001-06-27
 11 <150> PRIOR APPLICATION NUMBER: 60/214,705
 12 <151> PRIOR FILING DATE: 2000-06-27
 13 <160> NUMBER OF SEQ ID NOS: 19
 14 <170> SOFTWARE: PatentIn Ver. 2.1
 15 <210> SEQ ID NO: 1
 16 <211> LENGTH: 33
 17 <212> TYPE: DNA
 18 <213> ORGANISM: Artificial Sequence
 19 <220> FEATURE:
 20 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
 21 <400> SEQUENCE: 1
 22 cgaattccct ggtagcattt aatacaaatt ggc 33
 23 <210> SEQ ID NO: 2
 24 <211> LENGTH: 33
 25 <212> TYPE: DNA
 26 <213> ORGANISM: Artificial Sequence
 27 <220> FEATURE:
 28 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
 29 <400> SEQUENCE: 2
 30 cgcataagct ttgcagatgg agacggtttg ggc 33
 31 <210> SEQ ID NO: 3
 32 <211> LENGTH: 1735
 33 <212> TYPE: DNA
 34 <213> ORGANISM: Synechocystis sp.
 35 <400> SEQUENCE: 3
 36 ccctggtagc atttaataca aattggctat cttggcaaag tccccgaaa tattacgaaa 60
 37 cgtaaagtat aataacaatc aacctgtaaa ccccaaatgc cttagcgaga cagtaaccga 120
 38 tgcgcgttgt gatcgccgga gccggattag ccggcctagc ctgtgccaaa tacttagccg 180
 39 atgcgggcctt taccgccgctc gtcttggaaac gtagggatgt attaggcggg aagatcgccg 240
 40 cgtggaaaga tgaggacgga gattggtacg aaaccggcct acacattttt tttggggcct 300
 41 atcccaacat gttgcagtta tttaaggaaat tggatatcga agatcgtctg caatggaaag 360
 42 agcacagcat gatcttcaac caaccagaga aaccaggtag ctactctcgg ttcgattttc 420
 43 cggatatctc ggcccccatc aatgggtttgg tagccattct tcgcaacaac gatatgctta 480



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47      cctggccgga gaaaattcgc tttggcttgg gactcttgcc ggccattgtc cagggccaga 540
48      gctatgtgga agaaatggat aaatacactt ggtcagagtg gatggccaaa caaaatattc 600
49      cccccgcat cgaaaaagaa gttttcattg ccatgagtaa gacgttgaac tttattgatc 660
50      ccgatgaaat ttccgccacc attttactta ctgccctcaa tcgcttttta caggaaaaaa 720
51      atggctctaa gatggcattc ctggatgggg caccaccgga gcgtctttgc caacctttgg 780
52      tcgactatat tacggaacgg ggaggggaag tacacattaa taaacctctc aaagaaat 840
53      tgcttaatga agatggttcc gttaagggtt acttaatccg gggcctagat ggagcccccg 900
54      acgaagtgat cacagcggat ttatatgtgt ctgccatgcc ggtggatccc ctgaaaacca 960
55      tggtgccagc gccctggaga gaatacctg agtttaagca aatccaaggt ttggaaggag 1020
56      tcccggtcat taacctccac ctgtggtttg accgtaagtt aaccgacatt gatcatttgt 1080
57      tattctcccg atcgccgttg ttgagtgttt acgccgacat gagcaacacc tgccgagaat 1140
58      acagtgatcc agacaaatcc atgttggaat tgggtctggc tccggcccag gattggatcg 1200
59      gcaaataccg cgaagagatt gtggcggcca ccatggcgga gatcaagcaa ctctttcccc 1260
60      aacacttcaa cggggataat ccagcccgac tgcttaaatc ccacgtggtc aaaaccccc 1320
61      gctcagtcta caaagctacc cccggaaggc aggcttgtcg ccccgatcaa cggacatcgg 1380
62      tgcccaactt ttacctagca ggggacttca ccatgcaaaa atacttgggc agtatggaag 1440
63      gggcggtgct ttccggcaaa caatgcgccc aggcgatcgc cgccgatttc aacccccaaa 1500
64      ccgttcccc caccaggga atagtcaccg tgggttaagc cgcctggact ccctggtaat 1560
65      cttcctgaca aatggcaacc ctaatgcgac aatgctaaat ggctaacggt caaatttctc 1620
66      cccagcgtgc agttacaaa cccaatcct ggtggctgac ttccgaacct cgtccgtcct 1680
67      taatgttaca actgccc aaa cgtctccat ctgcaaagcc ctgtgcttct gttga 1735

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69 <210> SEQ ID NO: 4

70 <211> LENGTH: 20

71 <212> TYPE: DNA

72 <213> ORGANISM: Artificial Sequence

73 <220> FEATURE:

74 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer

75 <220> FEATURE:

76 <221> NAME/KEY: modified_base

77 <222> LOCATION: (3)

78 <223> OTHER INFORMATION: a, g, c or t

79 <220> FEATURE:

80 <221> NAME/KEY: modified_base

81 <222> LOCATION: (6)

82 <223> OTHER INFORMATION: a, g, c or t

83 <220> FEATURE:

84 <221> NAME/KEY: modified_base

85 <222> LOCATION: (12)

86 <223> OTHER INFORMATION: a, g, c or t

87 <400> SEQUENCE: 4

W--> 88 ggnacngayg cnttycarga

20

90 <210> SEQ ID NO: 5

91 <211> LENGTH: 18

92 <212> TYPE: DNA

93 <213> ORGANISM: Artificial Sequence

94 <220> FEATURE:

95 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer

96 <220> FEATURE:

97 <221> NAME/KEY: modified_base

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Input Set : N:\Cr4\Refhold\09_folder\I893033.raw

Output Set: N:\CRF4\08022004\I893033.raw

98 <222> LOCATION: (10)

99 <223> OTHER INFORMATION: a, g, c or t

100 <220> FEATURE:

101 <221> NAME/KEY: modified_base

102 <222> LOCATION: (13)

103 <223> OTHER INFORMATION: a, g, c or t

104 <400> SEQUENCE: 5

W--> 105 ytsccaytgn cknaccat

18

107 <210> SEQ ID NO: 6

108 <211> LENGTH: 1959

109 <212> TYPE: DNA

110 <213> ORGANISM: Synechocystis sp.

111 <220> FEATURE:

112 <221> NAME/KEY: modified_base

113 <222> LOCATION: (1843)

114 <223> OTHER INFORMATION: a, t, c, g, other or unknown

115 <400> SEQUENCE: 6

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116 gccataggag cccatcgccg attgagttca aattagaagc acttagccta cgcttcctaa 60
117 accgattgtc cagtgggtgc atcaattcct aatcccaaaa caaatttcct gaaaactgtt 120
118 cctagccaac ggcaaaccgg ggcttatatc ctgatggata gcctgaaacg ccatgggggtc 180
119 aaacacatth ttggctatcc cggcggggca attttgccca tctatgatga actgtaccgc 240
120 tttgaagcgg cgggggaaat tgagcatatt ttggtgcgcc atgaacaagg agcttcccat 300
121 gcggcggatg ggtatgccag agccacaggt aaagtgggag ttgttttcgg tacatctgga 360
122 ccagggggcg ctaacttggg gaccggcatt gccaatgccc atttggaetc ggtgccccatg 420
123 gtggtgatta ctggagaggt gggccgtgcc atgattggta gcgatgcttt ccaggaaatt 480
124 gacatttttg gcatcacctt accgatcggt aagcactcct atgtggtacg tagtgcggcg 540
125 gatattggctc gcattgttac tgaggctttc catcttgcta gcaccggtcg tcccggggccg 600
126 gttttgatcg atattcccaa ggaagtgggc ttagaagaat gtgagtacat tcccctcgac 660
127 cccggtgacg ttaatctacc gggttatcgc cccacggtta aaggtaatcc ccgacaaatt 720
128 aatgcggcat tgcaattggt ggagcaggcc agaaatccct tgctctacgt agggggaggg 780
129 gcgatcgccg ccaatgccc a tgcacaggtg caggaatttg cggaaagggt ccagttgccg 840
130 gtaacaacca cctgatggg aattggggct tttgacgaaa accatccctt ttcggtgggt 900
131 atgttgggta tgcattggca ccgctatgcc aactttgccg tcagcgaatg tgatttgttg 960
132 attgcagtgg gggcccggtt cgacgaccgg gtaactggca aactagacga atttgctagc 1020
133 cgcgccaag taattcacat tgacatcgac ccggcgaggg tgggaaaaaa cagggtctcc 1080
134 gatgtgcccc ttgtggggga tgtacgccat gttttagaac agcttttgca gcgggcccgg 1140
135 gaattggatt accccacca tccccatacc acccaggcat ggtaaatcg cattgatcat 1200
136 tggcggaacc attacccctt ccagggtgcc cactatgagg atactattgc ccccaggag 1260
137 gtagtacacg aaattggctg ccaggccccc gatgcctact acaccaccga tgtgggacaa 1320
138 caccaaatgt gggcgggcca gtttttgaac aatggccccc gccgatggat ttccagtgtc 1380
139 ggcttgggta cgatgggctt tgggtttacct gccgccatgg gagccaaagt gggagtgggg 1440
140 gacgagcggg catttgcatc agtggagatg ccagcttcca aatgaatctt caggaaactgg 1500
141 gaaccctagc ccagtacgac atccagggtta aaactattat tctcaataac ggttggcagg 1560
142 ggatggtgcg tcagtggcaa caaactttct acgaagaacg ttattctgct tctaacaatg 1620
143 cccagggcat gccagacatt aatctcctct gtgaagccta tggcatcaag ggtattactg 1680
144 tgcgaagcg ggaagatttg gcccgggcga tcgcccgaat gctagcccac aatggctcctg 1740
145 tgggttagga ttggtggtgc aaaaaagatg aaaactgtta ccctatgatt gcccccggca 1800
W--> 146 tgagtaatgc ccaaatgcta ggtttaccgg aagtgcgggt acnggacaat ggtccccgga 1860
147 tgggtggagt caaccattgc caaacccaaa atttcatcac ccacgttttc tgttctggtt 1920

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Input Set : N:\Crf4\Refhold\09_folder\I893033.raw

Output Set: N:\CRF4\08022004\I893033.raw

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148      gtggagccaa actctaacc ataagccaaa attgaattc      1959
150 <210> SEQ ID NO: 7
151 <211> LENGTH: 18
152 <212> TYPE: DNA
153 <213> ORGANISM: Artificial Sequence
154 <220> FEATURE:
155 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
156 <400> SEQUENCE: 7
157      attgacattt ttggcatc      18
159 <210> SEQ ID NO: 8
160 <211> LENGTH: 19
161 <212> TYPE: DNA
162 <213> ORGANISM: Artificial Sequence
163 <220> FEATURE:
164 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
165 <400> SEQUENCE: 8
166      tatccgccgc actacgtac      19
168 <210> SEQ ID NO: 9
169 <211> LENGTH: 22
170 <212> TYPE: DNA
171 <213> ORGANISM: Artificial Sequence
172 <220> FEATURE:
173 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
174 <400> SEQUENCE: 9
175      caggggcgac taacttggtg ac      22
177 <210> SEQ ID NO: 10
178 <211> LENGTH: 22
179 <212> TYPE: DNA
180 <213> ORGANISM: Artificial Sequence
181 <220> FEATURE:
182 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
183 <400> SEQUENCE: 10
184      accgctatgc caactttgcc gt      22
186 <210> SEQ ID NO: 11
187 <211> LENGTH: 22
188 <212> TYPE: DNA
189 <213> ORGANISM: Artificial Sequence
190 <220> FEATURE:
191 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
192 <400> SEQUENCE: 11
193      ggaggatagt acacgaaatt gg      22
195 <210> SEQ ID NO: 12
196 <211> LENGTH: 22
197 <212> TYPE: DNA
198 <213> ORGANISM: Artificial Sequence
199 <220> FEATURE:
200 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
201 <400> SEQUENCE: 12
202      aaatcttccc gcttgccac ag      22

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RAW SEQUENCE LISTING

DATE: 08/02/2004

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TIME: 11:59:11

Input Set : N:\Crf4\Refhold\09_folder\I893033.raw

Output Set: N:\CRF4\08022004\I893033.raw

```

204 <210> SEQ ID NO: 13
205 <211> LENGTH: 23
206 <212> TYPE: DNA
207 <213> ORGANISM: Artificial Sequence
208 <220> FEATURE:
209 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
210 <400> SEQUENCE: 13
211     ccaatttcgt gtactacctc ctg                                     23
213 <210> SEQ ID NO: 14
214 <211> LENGTH: 21
215 <212> TYPE: DNA
216 <213> ORGANISM: Artificial Sequence
217 <220> FEATURE:
218 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
219 <400> SEQUENCE: 14
220     aaagtgggag tgggggacga a                                       21
222 <210> SEQ ID NO: 15
223 <211> LENGTH: 22
224 <212> TYPE: DNA
225 <213> ORGANISM: Artificial Sequence
226 <220> FEATURE:
227 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
228 <400> SEQUENCE: 15
229     cggtggaatt ttacccaat gg                                       22
231 <210> SEQ ID NO: 16
232 <211> LENGTH: 23
233 <212> TYPE: DNA
234 <213> ORGANISM: Artificial Sequence
235 <220> FEATURE:
236 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
237 <400> SEQUENCE: 16
238     ggccctaaaa cttggattcc agg                                     23
240 <210> SEQ ID NO: 17
241 <211> LENGTH: 565
242 <212> TYPE: DNA
243 <213> ORGANISM: Synechocystis sp.
244 <400> SEQUENCE: 17
245     gtggaatttt accccaatgg ccaccggcga tcgccttctt tgccccccat gaaacacacc 60
246     ctctctgttt tagttgaaga tgaagccgga gtgctaaccg gcattgccgg actatttgcc 120
247     cgccgtggtt ttaacattga gagcttggcg gtggggtcgg cggaacaggg ggacgtttcc 180
248     cgcataccca tgggtggtgcc gggggatgag aacaccatcg aacaactgac caagcaactc 240
249     tacaagttgg ttaacgtaat taaagtacag gacatcaccg aaactccctg tgtggaaagg 300
250     gaattgatgc tgggtgaaggg gagcgccaat gcccctaacc gagcgggaagt gattgagcta 360
251     gcccagggat tccgggcccg cattgtggat atctccgaag acaccgtcac catcgaatgg 420
252     tgggggaccc gggtaaaatg gtagcaatcc tccagatgtt ggccaagtgg gcattaaaga 480
253     ggtggctcga acgggcaaaa ttgctttggt gcgggaatcc ggcgtcaata cggaatatct 540
254     gaaatccctg gaatccaagt tttag                                     565
256 <210> SEQ ID NO: 18
257 <211> LENGTH: 25

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/893,033

DATE: 08/02/2004
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Input Set : N:\Crf4\Refhold\09_folder\I893033.raw
Output Set: N:\CRF4\08022004\I893033.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:4; N Pos. 3,6,12
Seq#:5; N Pos. 10,13
Seq#:6; N Pos. 1843

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 5

VERIFICATION SUMMARY

DATE: 08/02/2004

PATENT APPLICATION: **US/09/893,033**

TIME: 11:59:12

Input Set : **N:\Crf4\Refhold\09_folder\I893033.raw**

Output Set: **N:\CRF4\08022004\I893033.raw**

L:88 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0

L:105 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0

L:146 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:1800